SENSORS
POWER | TEMPERATURE | IGNITION

TEMPERATURE SENSORS:
Your Voyager kit contains a model-specific temperature sensor. Vehicles cooled with water use an inline-radiator hose sensor, while air-cooled machines take temperature at the spark plug. There are also thermistor bolt sensors available that replace the radiator pressure-relief bolt.

RADIATOR TEMPERATURE SENSOR INSTALLATION:
There are 4 common radiator hose sizes. Make sure you have the correct size sensor BEFORE cutting your radiator hose. Place the sensor on the hose that brings heated fluid from the engine to the radiator for the most responsive engine temperature readings.

1. Drain fluid from the radiator. To drain the fluid, remove the lower bolt from the water pump housing. It can be found by looking for the bolt with a copper washer. Remove the radiator cap to let the coolant flow (fast) from the water pump housing.
2. Fig.1: Use the sensor to mark on the radiator hose where to make two cuts. (Use the left hose to measure hot fluid, or the right hose to measure fluid after it’s been cooled. If your cooling system uses a cross hose between the two radiators then this will be the best location to install the sensor.) The cuts should be about ¾” apart from each other and in a straight section of the hose.
3. MAKE SURE THE SENSOR FITS BEFORE CUTTING!
   Fig 2: Cut radiator hose. Use a pair of good scissors or cutters.
   Fig 3: Install sensor in hose. Slide a provided hose clamp on each end of the newly cut radiator hose. Insert Radiator Hose Sensor to join the two halves of the radiator hose. Tighten the hose clamps as shown in Fig.3.
4. Refill the radiator with fluid.
5. Connect sensor wire connector to Voyager.
6. Test the system. Make sure there is no fluid leakage.
   Use zip-ties to secure the sensor wire along bike as it is routed to Voyager.

AIR-COoled TEMPERATURE SENSOR INSTALLATION:

1. Remove spark plug.
2. Remove the crush washer from spark plug and discard.
3. Screw on the air-cooled temperature sensor (it looks like a ring terminal) where the crush washer was located.
4. Reinstall spark plug.
5. Connect sensor wire connector to Voyager.
6. Test the system.
7. Use zip-ties to secure the sensor wire along bike as it is routed to Voyager.

THERMISTOR BOLT TEMP SENSOR INSTALLATION:

1. Remove the M6 pressure relief bolt from top of radiator.
2. Install Voyager M6 Temperature Thermistor in pressure bolt hole. Tighten to no more than finger tight +¼ turn. Note that sensor is hollow brass and can break easily. Use silicone gasket sealer to prevent leaks.
3. Connect sensor wire connector to Voyager.
4. If the water level drops below the level of the thermistor bolt, the temperature reading may become inaccurate.
5. Test the system.
6. Use zip-ties to secure the sensor wire along bike as it is routed to Voyager.
SENSORS:
The Voyager sensors plug securely into Voyager using waterproof connectors. They are different sizes (you cannot plug a sensor into the wrong connector.)

IGNITION SENSOR INSTALLATION:

**OPTION 1:**
(Preferred option for most vehicles.)
Capacitive coupling to spark plug wire:
1. To install ignition sensor wire, wrap the red part of the sensor wire around the spark plug wire 5 times.

If required, you may shorten the length of the ignition sensor. Be very careful when stripping back the black casing to avoid damaging the inner red wire.

**OPTION 2:**
If the coil is attached to the spark plug, then use this option.

POWER CONNECTION:

**Wired to Vehicle Battery:** Connect the power wire to the vehicle 12V battery and to Voyager. A 0.5A fuse (not provided) should be used between the power cable and positive battery terminal when connecting directly to a battery. Use zip-ties to secure the cable to the bike as it is routed to Voyager. Connect the red wire to the positive(+) battery terminal, and the black wire to the negative(-) battery terminal.

**Fuel Injected MX Bikes:** Tap into electrical system at capacitor (regulated DC power.)

**Carburated MX Bikes:** Use wall charger, or upgrade to Trail Tech electrical system. (Most stock carburated MX bikes put out too much unregulated AC voltage for Voyager.) For electrical system assistance, contact Trail Tech at 360-687-4530.

*Voyager will operate in the range of 12-60VDC.*